What is Claimed is:

1. A glass powder batch comprising complex glass particles, wherein said glass particles are substantially spherical and have a weight average particle size of not greater than about 10 μm.

2. A powder batch as recited in Claim 1, wherein at least about 80 weight percent of said glass particles have a size of not greater than about two times said average particle size.

3. A powder batch as recited in Claim 1, wherein at least about 90 weight percent of said glass particles have a size of not greater than about two times said average particle size.

4. A powder batch as recited in Claim 1, wherein said glass particles comprise at least about 90 weight percent glass.

5. A powder batch as recited in Claim 1, wherein said glass particles comprise at least about 95 weight percent glass.

6. A powder batch as recited in Claim 1, wherein said glass particles have a particle density of at least about 90 percent of the theoretical density.

7. A powder batch as recited in Claim 1, wherein said glass particles have a particle density of at least about 95 percent of the theoretical density.

8. A powder batch as recited in Claim 1, wherein said average particle size is from about 0.1 μm to about 5 μm.

9. A powder batch as recited in Claim 1, wherein said average particle size is at least about 0.3 μm.

10. A powder batch as recited in Claim 1, wherein not greater than about 1 weight percent of said glass particles are in the form of hard agglomerates.

11. A powder batch as recited in Claim 1, wherein said complex glass is a borosilicate glass.

12. A powder batch as recited in Claim 1, wherein said complex glass is an aluminosilicate glass.

13. A powder batch as recited in Claim 1, wherein said complex glass is a lead-borosilicate glass.

14. A powder batch as recited in Claim 1, wherein said glass particles comprise no greater than about 0.1 atomic percent impurities.

15. A powder batch as recited in Claim 1, wherein said particles comprise no greater than about 100 ppm metallic impurities.

16. A powder batch as recited in Claim 1, wherein said glass particles are hollow glass particles.

17. A powder batch as recited in Claim 1, wherein said glass particles are glass composite particles comprising a crystalline second phase dispersed throughout a glass phase.

18. A powder batch comprising complex glass particles, wherein said complex glass particles have a weight average particle size of from about 0.1 μm to about 5 μm and wherein at least about 80 weight percent of said glass particles are not larger than twice said average particle size.

19. A powder batch as recited in Claim 18, wherein said glass particles are substantially spherical.

20. A powder batch as recited in Claim 18, wherein said glass particles have a particle density of at least about 90 percent of the theoretical density.

21. A powder batch as recited in Claim 18, wherein said complex glass is a borosilicate glass.

22. A powder batch as recited in Claim 18, wherein said complex glass is a lead-borosilicate glass.

23. A powder batch as recited in Claim 18, wherein said complex glass is an aluminosilicate glass.

24. A powder batch as recited in Claim 18, wherein said average particle size is at least about 0.3 μm.

25. A powder batch as recited in Claim 18, wherein said average particle size is not greater than about 3 μm.

26. A powder batch as recited in Claim 18, wherein not greater than about 1 weight percent of said glass particles are in the form of hard agglomerates.

27. A powder batch as recited in Claim 18, wherein said glass particles comprise no greater than about 0.1 atomic percent impurities.

28. A method for the production of glass particles, comprising the steps of:

a) generating an aerosol of droplets from a liquid wherein said liquid comprises at least a first glass precursor;

b) moving said droplets in a carrier gas; and

c) pyrolyzing said droplets at a reaction temperature and for a residence time sufficient to remove liquid therefrom and convert said precursor to form glass particles.

29. A method as recited in Claim 28, wherein said step of generating an aerosol comprises the step of ultrasonically atomizing said liquid.

30. A method as recited in Claim 28, wherein said step of generating an aerosol comprises the step of generating said aerosol with an atomizing nozzle.

31. A method as recited in Claim 28, wherein said carrier gas comprises air.

32. A method as recited in Claim 28, wherein said pyrolyzing step comprises passing said droplets through a heating zone having a reaction temperature of from about 300°C to about 1500° C.

33. A method as recited in Claim 28, wherein said pyrolyzing step comprises passing said droplets through a heating zone having a reaction temperature of from about 500°C to about 800° C.

34. A method as recited in Claim 28, wherein said pyrolyzing step comprises passing said droplets through a heating zone having a reaction temperature of at least about 600°C.

35. A method as recited in Claim 28, wherein said glass particles comprise not greater than about 0.1 atomic percent impurities.

36. A method as recited in Claim 28, wherein said glass particles have a particle density of at least about 90 percent of the theoretical density.

37. A method as recited in Claim 28, wherein said droplets in said aerosol have a size distribution such that no greater than about 20 weight percent of the droplets in said aerosol are larger than about twice the weight average droplet size.

38. A method as recited in Claim 28, wherein said liquid is a solution comprising at least one precursor selected from the group consisting of metal nitrates and metal

acetates.

39. A method as recited in Claim 28, wherein said liquid is a solution comprising metal nitrate precursors.

40. A method as recited in Claim 28, wherein said liquid comprises at least a first particulate precursor.

41. A method as recited in Claim 28, wherein said liquid comprises at least a first particulate precursor selected from the group consisting of silica and alumina.

42. A method as recited in Claim 28, wherein said liquid comprises a particulate precursor having an average particle size of not greater than about 100 nm.

43. A method as recited in Claim 28, wherein said liquid comprises at least two metal oxide precursors and wherein said glass is a complex glass.

44. A method as recited in Claim 28, wherein said liquid comprises a particulate precursor that does not undergo substantial chemical reaction in said furnace and wherein said glass particles are glass composite particles.

45. A method as recited in Claim 28, wherein said liquid comprises a metal precursor and wherein said glass particles are composite particles comprising a glass phase and a metallic phase.

46. A method as recited in Claim 28, wherein said liquid comprises at least three metal oxide precursors and wherein said glass is a complex glass comprising at least three components.

47. A method as recited in Claim 28, wherein said method further comprises the step of collecting said glass particles using a cyclone separator.

48. A method as recited in Claim 28, wherein said method further comprises the step of annealing said glass particles.

49. A method as recited in Claim 28, wherein said method further comprises the step of coating said glass particles.

50. A composition of matter, comprising:

a) a liquid vehicle phase; and

b) a functional phase dispersed throughout said vehicle phase, said functional phase comprising complex glass particles having a weight average particle size of not greater than about 10 μm and a particle size distribution wherein at least about 80 weight percent of said glass particles are not larger than twice said average particle size.

51. A composition as recited in Claim 50, wherein said glass particles comprise a complex borosilicate glass

52. A composition as recited in Claim 50, wherein said glass particles are substantially spherical.

53. A composition as recited in Claim 50, wherein said glass particles comprise no greater than about 0.1 atomic percent impurities.

54. A composition as recited in Claim 50, wherein said glass particles have a density of at least about 90 percent of the theoretical density.

55. A composition as recited in Claim 50, wherein said average particle size is from about 0.1 μm to about 5 μm.

56. A composition as recited in Claim 50, wherein said average particle size is not greater than about 3 μm.

57. A composition as recited in Claim 50, wherein said average particle size is at least about 0.3 μm.

58. A composition as recited in Claim 50, wherein at least about 90 weight percent of said glass particles are not larger than twice said average particle size.

59. A composition as recited in Claim 50, wherein not greater than about 1 weight percent of said particles are in the form of hard agglomerates.

60. A thick-film paste composition, comprising:

a) a binder phase;

b) an organic vehicle phase; and

c) a functional phase, wherein said functional phase comprises a complex dielectric glass composition in the for0m of dispersed particles wherein said particles are substantially spherical and have a weight average particle size of from about 0.1 μm to about 10 μm.

61. A thick-film paste composition as recited in Claim 60, wherein said average particle size is not greater than about 5 μm.

62. A thick-film paste composition as recited in Claim 60, wherein said average particle size is at least about 0.3 μm.

63. A thick-film paste composition as recited in Claim 60, wherein said complex dielectric glass is a borosilicate glass.

64. A thick-film paste composition as recited in Claim 60, wherein said glass particles are substantially spherical.

65. A thick-film paste composition as recited in Claim 60, wherein said glass particles have a particle size distribution wherein at least about 80 weight percent of said particles are not larger than twice said average particle size.

66. A thick-film paste composition as recited in Claim 60, wherein said paste is a photoactive paste.

67. A method for making a plasma display panel comprising barrier ribs disposed between electrodes, comprising the steps of depositing a complex glass powder on a substrate in a predetermined pattern, wherein said glass powder comprises particles having an average particle size of not greater than about 5 μm and a particle size distribution wherein at least about 80 weight percent of said particles are not larger than about two times said average particle size.

68. A method as recited in Claim 67, wherein said glass particles are deposited in a thick-film paste.

69. A method as recited in Claim 67, wherein said glass particles are deposited in a photoactive thick-film paste.

70. A method as recited in Claim 67, wherein said glass particles comprise less than about 100 ppm metallic impurities.

71. A method as recited in Claim 67, wherein said glass particles are substantially spherical.